IN THE CLAIMS

The pending claims are reproduced for the Examiner's convenience.

1. (Original) A process comprising:

mating a microelectronic die substrate to a board, wherein the substrate includes an upper surface, a lower surface, and a solder first bump disposed on the lower surface; and while mating

forming a stress-compensation collar (SCC) on the board, wherein the SCC abuts the solder first bump.

2. (Original) The process of claim 1, wherein forming the SCC includes embedding the solder first bump into the SCC to a depth range from about 5 percent embedded to about 95 percent embedded.

3. (Original) The process of claim 1, further including reflowing the solder first bump.

4. (Original) The process of claim 1, further including:

reflowing the solder first bump; and

curing the SCC.

5. (Original) The process of claim 1, wherein forming an SCC includes dispensing an SCC mass on the board.

6. (Original) The process of claim 1, wherein forming an SCC includes dispensing an SCC mass on the board, wherein the SCC mass includes a plurality of spaced-apart spots.

7. (Original) The process of claim 1, wherein mating includes mating through an uncured organic composition that includes a non-fugitive element in the composition, and wherein the composition includes at least one material selected from an epoxy solder paste, an epoxy flux, and combinations thereof.

8. (Original) The process of claim 1, wherein mating includes mating through an uncured organic composition that includes a non-fugitive element in the composition, and wherein the composition includes at least one material selected from a resin-containing flux, a cyanate ester-containing flux, a polyimide-containing flux, a polybenzoxazole-containing flux, a polybenzimidazole-containing flux, a polybenzothiazole-containing flux, a polymer-solder-flux paste, and combinations thereof.

9. (Original) The process of claim 1, wherein mating includes mating through an uncured organic composition that includes a non-fugitive element in the composition, and wherein the composition includes at least one material selected from a paste, a solder paste, an epoxy-containing solder paste, a resin-containing paste, a cyanate ester-containing paste, a polyimide-containing paste, a polybenzoxazole-containing paste, a polybenzimidazole-containing paste, a polybenzothiazole-containing paste, a flux, and combinations thereof.

10. (Original) The process of claim 1, wherein forming an SCC includes dispensing a single SCC mass on the board.

11. (Original) The process of claim 1, before mating, the process including:

forming a stress-relief layer (SRL) upon the substrate lower surface, wherein the SRL partially embeds the solder first bump.

12. (Original) The process of claim 1, further including:

forming an SRL upon the substrate lower surface, wherein the SRL partially embeds the solder first bump; and

reflowing the solder first bump.

13. (Original) The process of claim 1, further including:

forming an SRL upon the substrate lower surface, wherein the SRL partially embeds the solder first bump;

reflowing the solder first bump; and

curing at least one of the SCC and the SRL.

14. (Original) The process of claim 1, further including:

forming an SRL upon the substrate lower surface, wherein the SRL partially embeds the solder first bump, and wherein forming includes dispensing the SRL by ejecting a discrete series of quanta of polymer masses upon the lower surface that includes a ball grid array in excess of four solder bumps including the solder first bump.

Claims 15 - 29. (Canceled)

30. (Previously Presented) A process comprising:

mating a microelectronic die substrate to a board, wherein the substrate includes an upper surface, a lower surface, and a solder first bump disposed on the lower surface; and while mating

forming a stress-compensation collar (SCC) on the board, wherein the SCC abuts the solder first bump, and wherein forming the SCC includes dispensing a stream of mass upon the board and under conditions to embed the solder first bump.

31. (Previously Presented) The process of claim 30, wherein dispensing includes embedding the solder first bump into the SCC to a depth range from about 5 percent embedded to about 95 percent embedded.

32. (Previously Presented) The process of claim 30, wherein dispensing includes using an X-Y gantry to deposit the SCC.

33. (Previously Presented) The process of claim 30, wherein dispensing includes using an X-Y gantry to deposit the SCC, and wherein the stream of mass substantially contacts about half or more of the circumference of the solder first bump.

34. (Previously Presented) The process of claim 30, wherein dispensing includes using an X-Y gantry to deposit the SCC, and wherein the stream of mass substantially contacts about half or more of the circumference of the solder first bump, and wherein dispensing includes embedding the solder first bump into the SCC to a depth range from about 5 percent embedded to about 95 percent embedded.

35. (Previously Presented) The process of claim 30, wherein dispensing includes using an X-Y gantry to deposit the SCC, wherein the solder first bump is one of a plurality of peripheral solder bumps on the board, the process further including:

substantially contacting about half or more of the plurality of peripheral solder bumps with the stream of mass; and

modifying the translational speed of the X-Y gantry during the X-Y gantry changing directions.

36. (Previously Presented) The process of claim 30, wherein dispensing includes using an X-Y gantry to deposit the SCC, wherein the solder first bump is one of a plurality of peripheral solder bumps on the board, the process further including:

substantially contacting about half or more of the plurality of peripheral solder bumps with the stream of mass; and

modifying the flow rate of the stream of mass during the X-Y gantry changing directions.

37. (Previously Presented) The process of claim 30, wherein the solder first bump is one of a plurality of peripheral solder bumps on the board, and wherein dispensing further includes:

forming a stress-relief layer peripheral ring that touches the solder first bump; and

forming a substantially continuous stress-relief layer within the stress-relief layer peripheral ring, and wherein the substantially continuous stress-relief layer also touches the solder first bump.

38. (Previously Presented) The process of claim 30, wherein dispensing includes using an X-Y gantry to deposit the SCC, wherein the solder first bump is one of a plurality of peripheral

solder bumps on the board, the process further including, and wherein dispensing further includes:

forming a stress-relief layer peripheral ring that touches the solder first bump;

forming a substantially continuous stress-relief layer within the stress-relief layer peripheral ring, and wherein the substantially continuous stress-relief layer also touches the solder first bump;

substantially contacting about half or more of the plurality of peripheral solder bumps with the stream of mass; and

modifying the translational speed of the X-Y gantry during the X-Y gantry changing directions.

39. (Previously Presented) The process of claim 30, wherein dispensing includes using an X-Y gantry to deposit the SCC, wherein the solder first bump is one of a plurality of peripheral solder bumps on the board, the process further including, and wherein dispensing further includes:

forming a stress-relief layer peripheral ring that touches the solder first bump;

forming a substantially continuous stress-relief layer within the stress-relief layer peripheral ring, and wherein the substantially continuous stress-relief layer also touches the solder first bump;

substantially contacting about half or more of the plurality of peripheral solder bumps with the stream of mass; and

modifying the flow rate of the stream of mass during the X-Y gantry changing directions.

40. (Previously Presented) A process comprising:

mating a microelectronic die substrate to a board, wherein the substrate includes an upper surface, a lower surface, and a solder first bump disposed on the lower surface; and while mating

forming a stress-relief layer on the board, wherein the stress-relief layer abuts the solder first bump, and wherein forming the stress-relief layer includes dispensing a discrete series of a polymer mass upon the board and under conditions to embed the solder first bump.

41. (Previously Presented) The process of claim 40, wherein dispensing includes embedding the solder first bump into the stress-relief layer to a depth range from about 5 percent embedded to about 95 percent embedded.

42. (Previously Presented) The process of claim 40, wherein dispensing includes using an X-Y gantry to deposit the stress-relief layer.

43. (Previously Presented) The process of claim 30, wherein the solder first bump is one of a plurality of peripheral solder bumps on the board, and wherein dispensing further includes forming a stress-relief layer peripheral ring that touches the solder first bump, and wherein at least one of the discrete series of a polymer masses upon the board also touches the solder first bump.